

Work Order ID 84831

84831

Page 1

May-24-12 7:55:35 AM

Item ID: D206-642-241

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 24/05/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 07/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/05/28

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2650

Rev F

100

0.00

100

DOCUMENT CONTROL

DC


0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-241

CHG005

N/A 

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:

WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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Required Date: 07/06/2012 Req'd Qty: 1.00

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

110

0.00

110

Skidtubes

0.00

Skidtubes

Memo

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty Part Number Description Batch

A/R Aluminum Rod

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg 2650 from front of tube and Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D2650

7-Open holes for Aft end cap as per Dwg D2650 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt 8167.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.

SAD 12-06-07

7 BE 12/6/18

CF 12-6-20

SAD 12-06-26

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.

12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D2650

13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder

14-Remove indexing edge using DT8741 as per Dwg D2650

15-C'sink GHW rivet holes as per Dwg D2650

SAD 12-06-26

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

Sizeloff

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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*** 1 ***

Cust Item ID:

Required Date: 07/06/2012 **Req'd Qty:** 1.00

*** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

130

Skidtubes

0.00

Skidtubes

Memo

Skidtubes

1-Open crossbolt holes to Ø0.3125"

2-Drill pilot holes using DT8028-3, then open to Ø0.297" as per Dwg D2650.
Open Aft cap hole #6.

3-Deburr tube and blow out chips from inside the tube

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

Memo

0.00

HandFinish

Hand Finishing

150

QC7-Inspect Chemical Conversion Coat

0.00

150

Memo

0.00

QC

Quality Control

W/O:		WORK ORDER CHANGES					
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Page 5

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	1-Open holes to finished size as per Dwg D2650, D2650-3 Drilling Detail (without cutting fluid)								
	2-C'sink crossbolt spacer holes as per Dwg D2650(without cutting fluid)								
	3-Deburr and blow out all chips from inside the tube								
170	QC6- Inspect dimensions to drawing	0.00							
170									
QC	Memo	0.00							
Quality Control									

De 12/07/03

12-7-3

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 6

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Reference:

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Run Start ***NR1***

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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180

0.00

180

Skidtubes

0.00

Skidtubes

Memo

1-Locate, install and rivet doublers as per Dwg D2650. Micro-shave rivets as required

2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12

Hrs. cure time before cutting

Start Date: 12/07/07 Time: 9:00Finish Date: 12/07/10 Time: 9:00

Pick:

Qty Part Number Description Batch

A/RSikaflex-291 121409Sikaflex expire date: 13-4-12*Dec 12/07/03*

190

QC5- Inspect part completeness to step on W/O

0.00

190

QC

Memo

0.00

Quality Control

1 0 BE 12/07/10

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 7

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00

200

Skidtubes

0.00

Skidtubes

Memo

1-remove alodine from around hole and prepare for welding

2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

Pick:

QtyPart NumberDescriptionBatch
A/RAluminum Rod M120104

3-Grind welds flush as per Dwg D2650.

4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D2650. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required.

A/RSS Rod NONE

5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D2650. Deburr

Handwritten notes:
BC 12/2/10
DP 12-2-11

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 8

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

0.00

210

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

Install D2680-041 Nut Plate as per Dwg D2650

DP

12-7-11

220

QC10- Inspect visual per QSI004- ground welds

0.00

220

QC

QC 9

Memo

0.00

Quality Control

Pl 12.7.12 DAS 24
Pl 12.7.12

230

QC5- Inspect part completeness to step on W/O

0.00

230

QC

Memo

0.00

Quality Control

Pl 12.7.12 / 12/10/12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 9

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	Pressure Wash per QSI005 4.3	0.00							
240									
HandFinish		0.00							
Hand Finishing	Memo Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.								
250	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
250									
Powdercoat		0.00							
Powder Coating	Memo START TIME: 8:00 OVEN TEMPERATURE: 320 °F FINISH TIME: 8:30								
260	QC3- Inspect Part Finish	0.00							
260									
QC		0.00							
Quality Control	Memo								

W121841

1X Ø 12/07/12
1X Ø 12/07/13
1 X 12/07/16

W/O:		WORK ORDER CHANGES					
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Page 10

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	HandFinishing	0.00							
270									
HandFinish	Memo	0.00							
Hand Finishing	1- Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate. A/RSikaflex-291 <u>122130</u> Sikaflex expire date: <u>14/03</u> 2-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D2650 (D2650-3 detail). Clean excess adhesive. 3-Install MS27039-4-06 Screw as per DEO 9153. 4 -Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive A/RSikaflex-291 <u>122130</u> Sikaflex expire date: <u>14/03</u> 5 -Wing Walk as per Dwg D2650-3 and QSI 005 4.4 A/R Batch: <u>121505</u> Batch: _____								
300	QC5- Inspect part completeness to step on W/O	0.00							
300									
QC	Memo	0.00							
Quality Control									

1 2 3 12/07/16

DAS
16
0.00 17/07/16

Dart Aerospace Ltd

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Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
310	Packaging	0.00							
310									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-664-241								
	Location: _____								
	PPP Rev: _____ <i>PPR 86898</i>								
320	QC21- Final Inspection - Work Order Release	0.00							
320									
QC	Memo	0.00							
Quality Control									

4/2/12 (190)

12/7/23

ME 12-07-19

W/O:		WORK ORDER CHANGES					
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Picklist Print

May-24-12 7:55:39 AM

Page 1

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Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: 04.12.02 Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by: ECIPP rev Q 10.02.19 per PAR 09-043 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2620

Manufactured

No

110

Each

17.0000

1

1

D2620

Skidtube, 206 Skidtube

**

SAD 12-06-07

Location

Loc Qty

Loc Code

LG

17

79543

2

79544

1

81365

1

82517

3

82518

10

D3286-1

Manufactured

No

110

Each

77.0000

2

D3286-1

Doubler

**

SAD 12-06-08

Location

Loc Qty

Loc Code

LG002

189

74872

6

78014

7

79556

58

ST046

-112

76772

6

D2647

Manufactured

No

110

Each

79.0000

1

1

D2647

Cap

**

BE 12/06/18

Location

Loc Qty

Loc Code

LG002

79

75482

3

79563

76

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Page 2

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D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2654-3

Manufactured No

180

Each

2.0000

1

1

D2654-3

**

Web

Location 385944Loc QtyLoc Code

LG

2

82106

2

CR3212-4-04

Purchased No

180

Each

4,583.000

52

52

CR3212-4-04

**

Cherry Rivet

LocationLoc QtyLoc Code

ST331

116

116471

36

117816

3

118686

1

118840

16

119017

60

st510

4467

119075

4467

OK 12/07/03

①

OK 12/07/03

⑤2

May-24-12 7:55:39 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:39 AM

Page 3

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

200

Each

415.0000

18

18

D2649

Cross Bolt Spacer

BE 12/07/10
*885586 *18*

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	272	
77574	2	
79502	8	
79503	251	
79564	4	
79565	7	
LG001	143	
65317	1	
68224	2	
68507	11	
71355	2	
72704	2	
72841	11	
73390	8	
73857	21	
73858	53	
73859	4	
73860	4	
78020	6	
78583	2	
79566	16	

D3286-3

Manufactured No

200

Each

62.0000

2

2

D3286-3

Spacer

BE 12/07/10

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	40	
81975	40	
LG001	22	
74117	1	
79557	21	

2

May-24-12 7:55:40 AM

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Page 3

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 4

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041 Manufactured No

210 Each

87.0000 1

D2680-041

Nut Plate

**

DD 12-7-11

Location

Loc Qty

Loc Code

ST013

87

78016

87

CR3212-4-03

Purchased No

210 Each

1,278.000 2

CR3212-4-03

Cherry Rivet

**

DD 12-7-11

Location

Loc Qty

Loc Code

FP002

350

114859

350

ST331

928

110139

2

119017

926

CCR264SS3-3

Purchased No

210 Each

364.0000 2

CCR264SS3-3

Cherry Rivet

**

DD 12-7-11

Location

Loc Qty

Loc Code

ST331

364

113973

2

117849

81

119017

281

2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 5

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270

Each

32.0000

1

1

D2646

Aft Cap

**

1

(28)

12/07/16



Location

Loc Qty

Loc Code

FP002

85443✓

32

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

78018

4

79562

12

D2651-1

Manufactured No

270

Each

439.0000

18

18

D2651-1

Plug

**

18

(28)

12/07/16

Location

Loc Qty

Loc Code

FP

200

FP001

85456✓

425

57869

1

66445

10

69018

2

70827

2

70839

8

71037

8

77559

30

78584

18

79234

46

FP-A

-186

77559

1

78124

5

81954

108

82573

200

May-24-12 7:55:40 AM

Shop Packet Print

Page 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 6

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

AN960JD416 ☒ NAS1149D0463J ☒ Purchased

No

270

Each

30.0000

1

1

AN960JD416

Washer

**

1

(28)

12/07/16

Location

Loc Qty

Loc Code

ST351

121912 ✓

30

116289

10

119097

20

D2651-3

Manufactured

No

270

Each

1,246.000

18

18

D2651-3

O-Ring

**

18

(28)

12/07/16

Location

Loc Qty

Loc Code

FP001

16

61962

12

73828

4

FP-A

1230

78126 ✓

1230

MS27039-1-08

Purchased

No

270

Each

1,733.000

46

46

MS27039-1-08

Screw

**

46

(28)

12/07/16

Location

Loc Qty

Loc Code

ST291

1733

117423

81

119075

1

120308 ✓

594

121011

57

121243

500

121708

500

May-24-12 7:55:40 AM

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Page 6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 7

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

270

Each

3,051.000

44

44

AI S4-1032-130

Insert

**

44

(2P)

12/07/16

~~X~~

Location

Loc Qty

Loc Code

ST280

121444✓

205

119084

116

120671

89

ST281

124

120807

36

120837

88

ST282

2722

121269

2722

MS27039-4-06

Purchased

No

270

Each

131.0000

1

1

MS27039-4-06

Screw

**

1

(2P)

12/07/16

Location

Loc Qty

Loc Code

ST292

131

119075✓

131

AN960JD10L

~~X~~ NAS1149D0332J✓

Purchased

No

270

Each

0.0000

46

46

*AN960JD10I *

Washer

**

46

(2P)

12/07/16

121011✓

May-24-12 7:55:40 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 8

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No

270 Each

79.0000 4 4

D3537-1

Wearpad

**

4

(2P)

12/07/16

Location	Loc Qty	Loc Code
FG 85457✓	10	
79833	10	
FP002	69	
69817	5	
81360	38	
81362	22	
83254	1	
83255	3	

D3537-3 Manufactured No

270 Each

24.0000 1 1

D3537-3

Wearpad

**

1

(2P)

12/07/16

Location	Loc Qty	Loc Code
FP002 85481✓	24	
78836	3	
81363	21	

D3535-13 Manufactured No

270 Each

20.0000 1 1

D3535-13

Wearshoe

**

1

(2P)

12/07/16

Location	Loc Qty	Loc Code
FP001	20	
78962	2	
79850	1	
80327	5	
81353✓	12	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-24-12 7:55:40 AM

Page 9

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-13

Manufactured No

270 Each

29.0000

1

1

D3536-13

Gasket

**

1

(SP)

12/07/16



Location

Loc Qty

Loc Code

FP002

81344 ✓

29

78964

5

81344

24

D3535-21

Manufactured No

270 Each

17.0000

1

1

D3535-21

Wearshoe

**

1

(SP)

12/07/16

Location

Loc Qty

Loc Code

FP001

80329 ✓

6

80329

6

FP002

78987

11

78987

11

D3536-21

Manufactured No

270 Each

27.0000

1

1

D3536-21

Gasket

**

1

(SP)

12/07/16

Location

Loc Qty

Loc Code

FP

83433

11

83433

11

FP002

78966 ✓

16

78966

16

D3535-33

Manufactured No

270 Each

28.0000

1

1

D3535-33

Wearshoe

**

1

(SP)

12/07/16

Location

Loc Qty

Loc Code

FP001

70462

28

70462

1

78984

15

82751 ✓

12

May-24-12 7:55:40 AM

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Page 9

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

May-24-12 7:55:40 AM

Page 10

Work Order ID: 84831

84831

Parent Item: D206-642-241

D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 24/05/2012

Required Date: 07/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3536-33

Manufactured No

270

Each

21.0000

1

1

D3536-33

Gasket

1

OP

12/07/16

Location

Loc Qty

Loc Code

FP002

21

70465

8

81341 ✓

13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 84831 MLJ
12/05/28

RELEASED
08-07-23

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	RMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

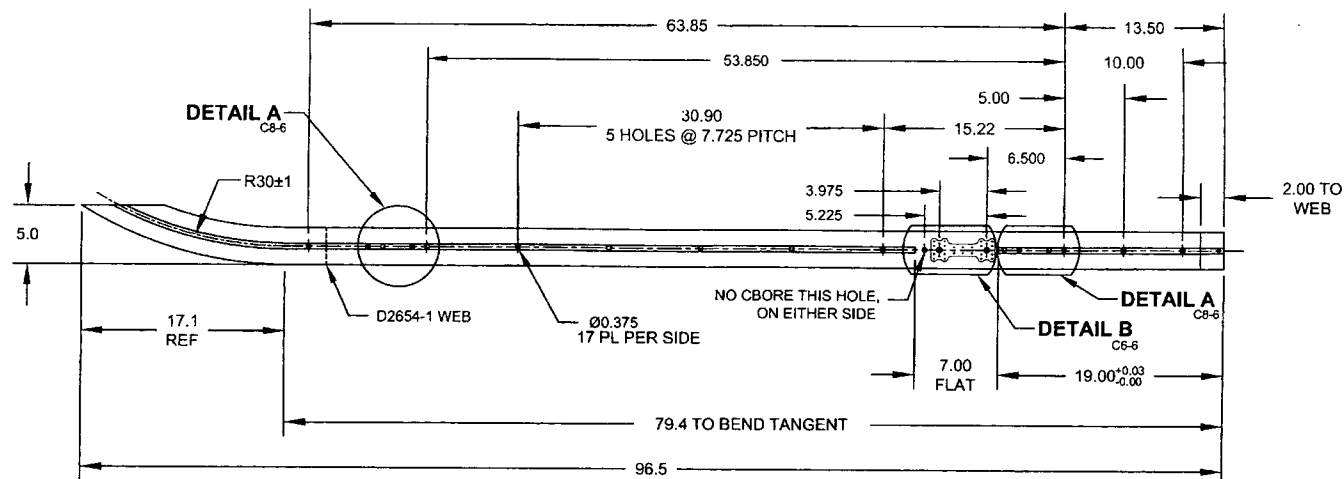
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

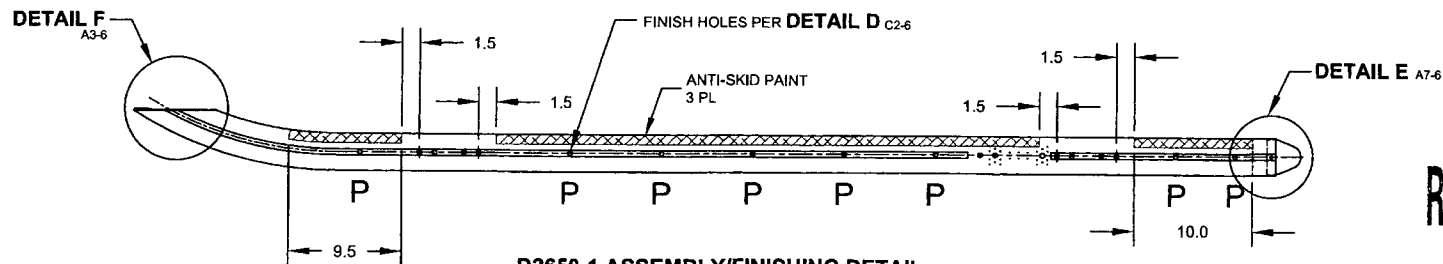
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

24831







D2650-1 BENDING/DRILLING DETAIL



D2650-1 ASSEMBLY/FINISHING DETAIL

RELEASED
680722/11

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 2 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC	
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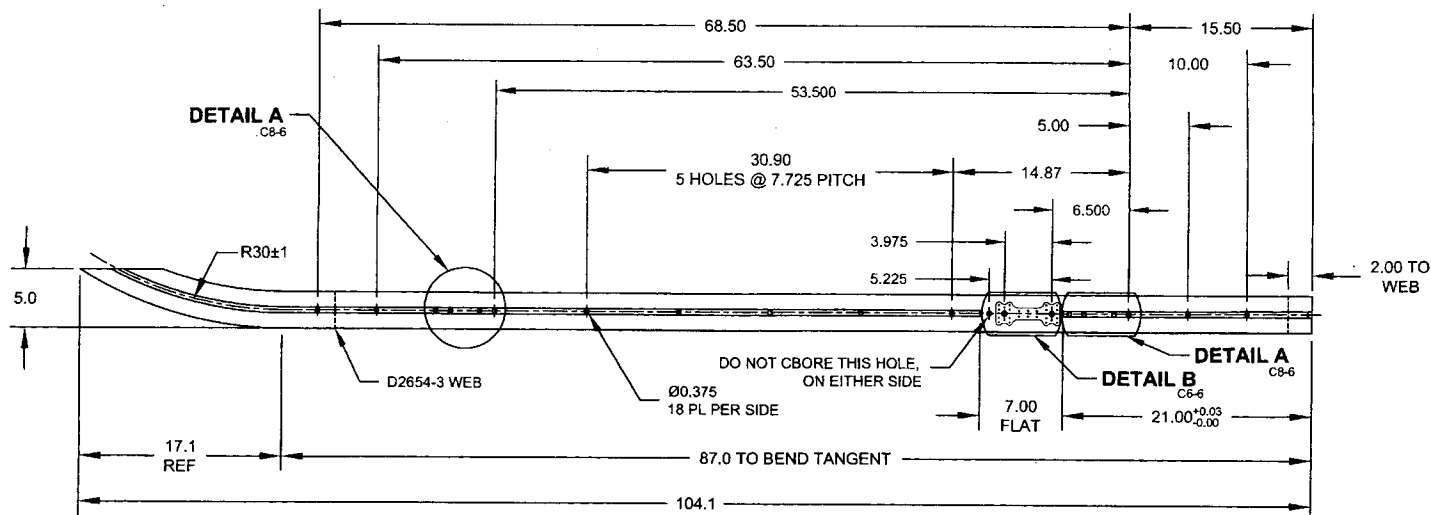
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

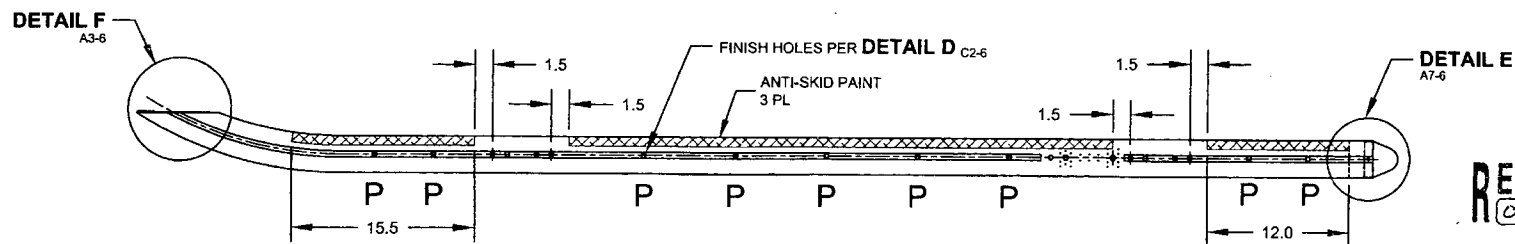
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



NOTE: Date & initial all entries



D2650-3 BENDING/DRILLING DETAIL



D2650-3 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC <small>THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

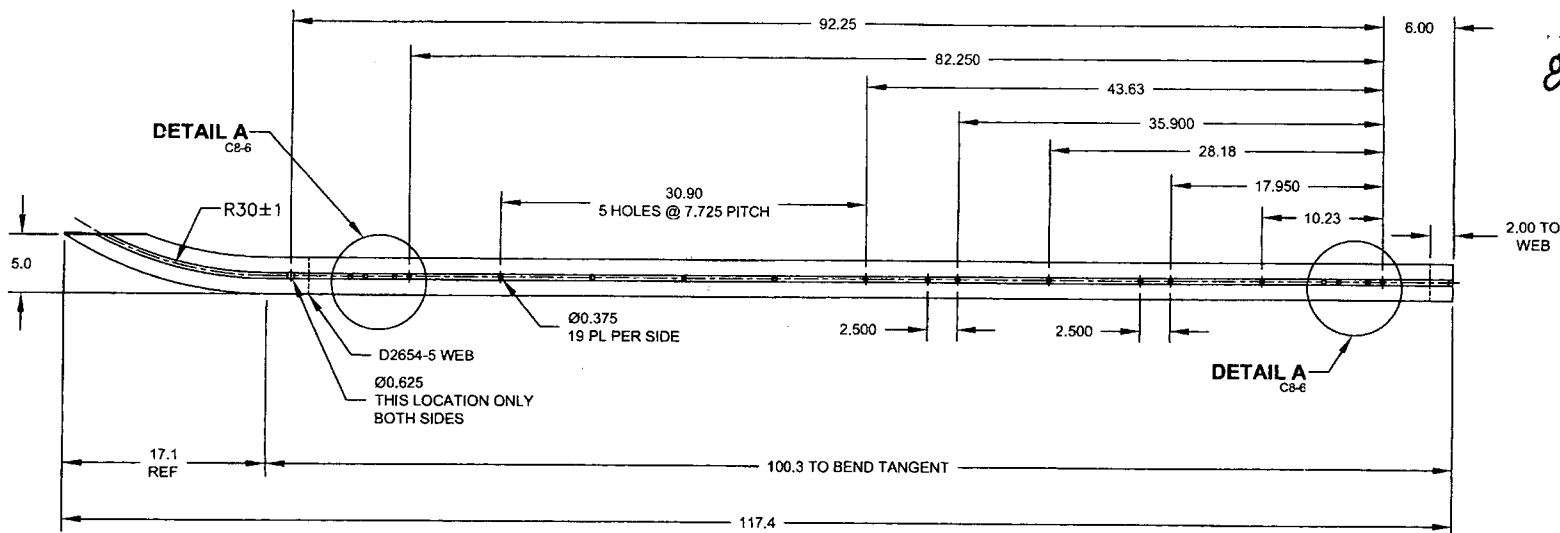
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

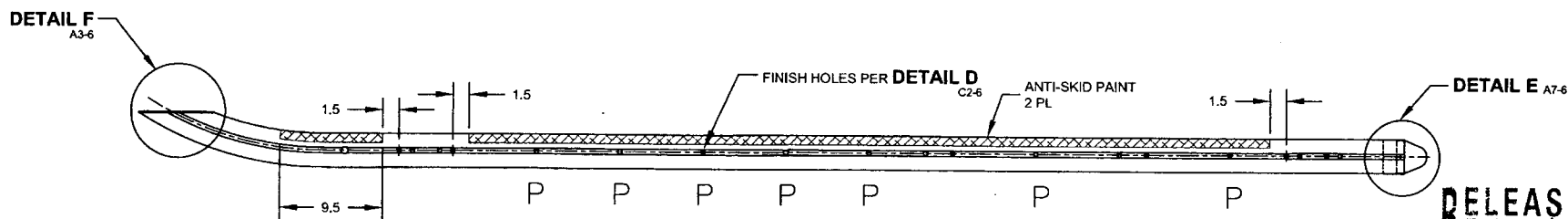
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	A/S	PORT HADLOCK, WA	
CHECKED	J	DRAWING NO.	REV. F
MFG. APPR.	E	D2650	SHEET 4 OF 6
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	206/407 SKIDTUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

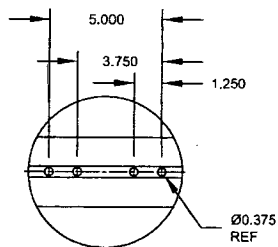
W/O:		WORK ORDER CHANGES					
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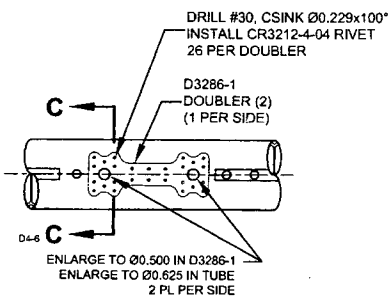
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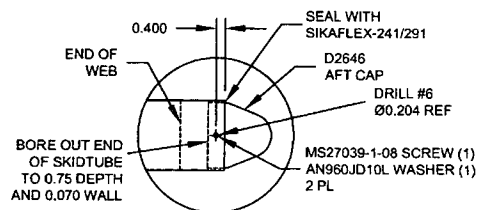
DETAIL A
SCALE 2X

C2-2
D7-2
C2-3
D7-3
C2-4
D7-4
C2-5
D5-5



DETAIL B
SCALE 2X

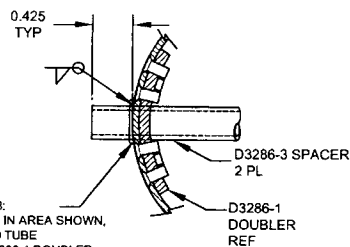
C3-2
C3-3



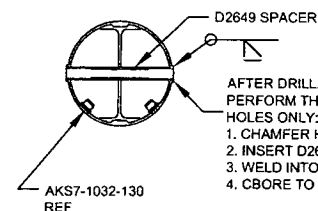
DETAIL E
SCALE 2X

B2-2
B2-3
B1-4
B1-5

SECTION C-C C7-6
SCALE NONE



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.030x45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE.

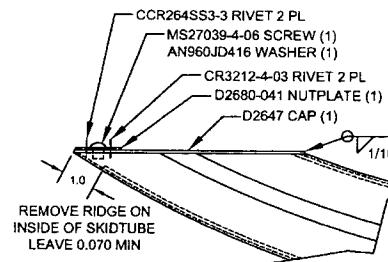


DETAIL D
FOR Ø0.375 HOLES ONLY
SCALE 3X

B4-2
B4-3
B4-4
B4-5

- AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. CBORER TO Ø0.313 X 0.75 DP

ORIENTATION OF
D2680-041



DETAIL F
SCALE NONE

B8-2
B8-3
B8-4
B8-5

DETAIL F NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
05-09-27-18

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
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NOTE: Date & initial all entries

NO. 297

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barday Elliott
Job #: 80951
Part #: A206-B42-151
Description: Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier [Signature] Date of Test Coupon 12.06.13
Welder Barday Elliott Date of Test Coupon 12.06.13

The above named individual is qualified in accordance with AWS D17.1.2001 to weld